In the claims:

1. (currently amended) An apparatus for improving the acoustic impedance for a loudspeaker ~~transducers~~ comprising:

An enclosure with six outer walls and six inner walls connected to form a box structure three of said inner walls being one of three wave-guides forming a closed loop embedded acoustic transmission line;

a second enclosure disposed within said first enclosure using one of the walls of said first enclosure to complete its structure while the other three walls also form the second of the required wave-guides constructing an embedded acoustic transmission line;

a termination member affixed at the end of said transmission line to seal and form the third of the ~~required~~ wave-guides constructing an embedded acoustic transmission line;

at least one aperture located in at least one interior wall ~~preferably the back~~ of said second enclosure of a proportional diameter or area creating a throat/mouth opening to said embedded acoustic transmission line;

an alternative density transmission medium affixed to at least one of said wave guides covering a majority of its surface;

at least one opening in the wall common to both structures hereinafter called a baffle board to ~~allow mounting at least one~~ mount a bi-directional loudspeaker ~~transducer~~; and

~~at least one~~ a bi-directional ~~radiating~~ loudspeaker mounted on the baffle board;

wherein a sound wave reflected through the aperture improves the acoustic impedance of the apparatus.

2. (currently amended) Apparatus, as claimed in claim 1 wherein said interior enclosure is equipped with tuning means to accentuate the low frequencies of the speaker, comprising:

a port means extending through said baffle board ~~or shelf type tuning orifice at said baffle board or, a port means extending from interior cabinet through any wall of the enclosure or, a multiple port means extending from said second enclosure through said~~

~~baffle board or other side wall. [c2] a passive diaphragm means mounted on said baffle board instead of said port.~~

3. (currently amended) Apparatus, as claimed in claim 1 wherein an acoustic low pass filter is connected in front of the ~~driver~~ loudspeaker to produce low frequencies only, comprising:

A second enclosure placed in front of said ~~driver~~ loudspeaker to provide air mass for acoustic low pass function;

a tubular or shelf port means ~~is used~~ to launch a particular range of low frequencies from said air mass ~~volume or; a mechanical passive radiator means is used to launch a particular range of low frequencies from the new air volume~~.

4. (currently amended) Apparatus, as claimed in claim 1 ~~wherein a horn means is used to couple the driver to the atmospheric pressure,~~ further comprising:

a horn type expansion diaphragm means ~~is~~ coupled to the ~~driver~~ louspeaker in front of the embedded acoustic transmission line to increase ~~its~~ throw or coverage.

5. (currently amended) Apparatus, as claimed in claim 1 wherein said ~~driver~~ loudspeaker is of the planar type of flat panel driver that produces sound waves bi-directionally, comprising:

an electrostatic type sound panel for any frequency range ~~or, a dynamic planar type sound panel for any frequency range or, a ribbon planar type sound panel for any frequency range or, any new generic type of bi-directional planar speaker design regardless of type~~.

6. (currently amended) Apparatus, as claimed in claim 1 wherein said ~~driver~~ loudspeaker is front mounted directly over and facing said aperture ~~of proper diameter~~ and sealing said embedded acoustic transmission line with said ~~driver~~ loudspeaker, comprising:

a first and second wave-guide disposed directly in front of and around said ~~driver~~ loudspeaker ~~so~~ mounted at right angles with said center aperture in said second wave-

guide and in a radial relationship with said second wave-guide so as to create a channel expanding from the center in a radial manner;

a termination member disposed at the opposite end of the pair of wave-guides disposed to block a wave in the embedded acoustic transmission line to cause a reversal of said wave;

an alternate density transmission medium affixed to at least one wall of one of said wave-guides; and

a ~~loudspeaker~~ driver of the loudspeaker ~~suitable diameter and power handling capability~~ mounted at said mouth of said embedded acoustic transmission line.

7. (currently amended) Apparatus, as claimed in claim 6 ~~wherein said aperture has disposed~~, further comprising:

a compression plug mounted directly in front of ~~the~~ said driver to guide said wave and increase pressure on said driver to maintain a pressure differential with atmosphere~~;~~.

8. (currently amended) Apparatus, as claimed in claim 6 wherein the reverse side of the driver is coupled to a acoustic low pass filter to produce low frequencies only; ~~comprising an~~ the acoustic low pass filter ~~using~~ comprising an enclosure and a port tube ~~of proper diameter and length; or an acoustic low pass filter using an enclosure and a shelf type tuning means created from said enclosure said acoustic low pass filter is an enclosure and a passive radiator diaphragm of proper diameter and mass~~.

9. (currently amended) Apparatus, as claimed in claim 6 wherein the acoustic embedded transmission line comprises multiple embedded acoustic transmission lines ~~are used each said enclosure dimension and volume represents~~ each for a different frequency range to optimize the operation in each range while independent or housed in a common larger enclosure used for the lowest frequencies; and further comprising~~: multiple independent embedded acoustic transmission line enclosures each of a dimension appropriate for the driver representing that frequency range;~~ multiple ~~different~~ dynamic transducers each of a different diameter appropriate for that frequency range~~; A common housing for said~~

~~multiple embedded acoustic transmission lines to contain said enclosures as a single subwoofer system~~.

10. (currently amended) Apparatus, as claimed in claim 6 ~~when~~ wherein the alternate density transmission medium ~~is~~ includes open cell urethane foam.

11. (new) The apparatus of claim 1, further comprising:

a port means extending from an interior cabinet through a wall of the enclosure.

12. (new) The apparatus of claim 1, further comprising:

a passive diaphragm mounted on the baffle board.

13. (new) The apparatus of claim 1, further comprising:

an acoustic low pass filter attached to the reverse side of the driver to produce low frequencies.

14. (new) A speaker system, comprising:

a first cabinet;

a second cabinet having a common front wall with the first cabinet;

an aperture between the first cabinet and the second cabinet;

an alternative density transmission medium attached to an inner wall of the second cabinet;

wherein a sound wave reflected through the aperture improves the acoustic impedance of the speaker enclosure.

15. (new) The speaker system of claim 14, further comprising:

a bi-directional loudspeaker mounted to the common front wall.

16. (new) The speaker system of claim 14, wherein the alternative density transmission medium includes open cell foam.

17. (new) A method of moderating a bias pressure caused by a reflected sound wave in a speaker enclosure, the method comprising:

directing the sound wave through an aperture from a first chamber to a second chamber of the speaker enclosure;

compressing a foam material in the second chamber with the directed sound wave, the amount of compression varying according to the frequency and the intensity of the sound wave; and

reflecting the sound wave through the aperture from the second chamber to the first chamber to moderate the bias pressure in the speaker enclosure.

18. (new) The method of claim 17, further comprising:

producing the sound wave in the first chamber.